

[54] **SENSOR CONTROLLED SAMPLING APPARATUS AND METHOD**

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[56] **References Cited**

U.S. PATENT DOCUMENTS

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[57] **ABSTRACT**

A flexible tube of uniform internal diameter extends through a peristaltic pump and has its inlet communicating with a supply of liquid to be sampled. The pump is cyclically operated first in a reverse direction to purge all liquid from the tube, and then in a forward direction to pump liquid from the supply to a collector. When the pumped liquid fills a first portion of the tube for a predetermined axial distance from its inlet, a device disposed externally of the tube senses the presence of the liquid and signals a processor, which then determines the rate of flow of the liquid, and the total time T_1 the pump must operate to fill the entire tube plus a desired sample volume. The cycle is completed by momentarily reversing the pump to purge the first portion of the tube, and then it is operated in its forward direction for the time T_1 .

17 Claims, 2 Drawing Figures

